This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Please **amend** the claims as follows:

**Claim 1. (Currently Amended)** ~~A~~ An isolated polypeptide comprising

(a) the amino acid sequence ~~shown in~~ of SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6,

(b) a fragment thereof, or

(c) a polypeptide which has ~~an~~ sequence identity to the polypeptides of (a) or (b) of at least 70%.

**Claims 2.–50. (Canceled)**

**Claim 51. (New)** The polypeptide of claim 1, which is an oxidase and is capable of producing $H_2O_2$.

**Claim 52. (New)** The polypeptide of claim 1, which is an alpha amino acid oxidase.

**Claim 53. (New)** The polypeptide of claim 52, which is a L-lysine and/or L-arginine oxidase.

**Claim 54. (New)** The polypeptide of claim 51, wherein the production of $H_2O_2$ by said polypeptide can be regulated by the addition or removal of an L-amino acid.

**Claim 55. (New)** The polypeptide of claim 54, wherein the L-amino acid is L-lysine, L-arginine, a derivative or a precursor of L-lysine, a derivative or a precursor of L-arginine, or a mixture thereof.

**Claim 56. (New)** The polypeptide of claim 1, which is a recombinant polypeptide.

**Claim 57. (New)** The polypeptide of claim 56, which is a fusion polypeptide.

**Claim 58. (New)** A polynucleotide encoding a polypeptide of claim 1.

**Claim 59. (New)** The polynucleotide of claim 58, comprising at least one of the following polynucleotides:

(a) a polynucleotide comprising the nucleic acid sequence of SEQ ID NO: 1, SEQ ID NO:3, or SEQ ID NO:5, or at least a polypeptide-encoding portion thereof, or a complement thereof,

(b) a polynucleotide sequence corresponding to the sequence of (a) within the scope of degeneracy of the genetic code, or a complement thereof,

(c) a polynucleotide sequence which is capable of hybridizing under stringent hybridizing conditions with the sequence of (a) and/or (b),

(d) a polynucleotide sequence which has a homology of at least 70% to the sequence of (a) and/or (b).

**Claim 60. (New)** The polynucleotide of claim 58, which is operatively linked to an expression control sequence.

**Claim 61. (New)** A recombinant vector comprising the polynucleotide of claim 58.

**Claim 62. (New)** A recombinant cell comprising the polynucleotide of claim 58.

**Claim 63. (New)** An antibody directed against a polypeptide of claim 1.

**Claim 64. (New)** A pharmaceutical composition or a kit comprising the polypeptide of claim 1 in a pharmaceutically effective amount and optionally comprising a diluent, a carrier and/or an adjuvant.

**Claim 65. (New)** The pharmaceutical composition or the kit of claim 64,

comprising at least one modulating substance, wherein said modulating substance is capable of modulating the cytotoxic activity of said polypeptide.

**Claim 66. (New)** The pharmaceutical composition or the kit of claim 65, wherein the polypeptide and the modulating substance are provided as separate preparations.

**Claim 67. (New)** The pharmaceutical composition or the kit of claim 66, wherein the polypeptide is administered before the modulating substance.

**Claim 68. (New)** The pharmaceutical composition or the kit of claim 65, wherein the modulating substance is L-lysine, L-arginine, a derivative or precursor of L-lysine, a derivative or precursor of L-arginine, or a mixture thereof, and/or
a flavine nucleoside.

**Claim 69. (New)** The pharmaceutical composition or the kit of claim 65, further comprising a nucleic acid, and/or a recombinant cell, and/or an *Aplysia punctata* ink toxin (APIT) inhibitor.

**Claim 70. (New)** The pharmaceutical composition or the kit of claim 69, wherein the inhibitor is an antibody against the polypeptide.

**Claim 71. (New)** A method of diagnosing or treating a disease comprising reacting or administering to a subject in need thereof, respectively, a polypeptide of claim 1.

**Claim 72. (New)** A method of diagnosing or treating a disease comprising administering to a subject in need thereof a polynucleotide of claim 58.

**Claim 73. (New)** A method of diagnosing or treating a disease comprising administering to a subject in need thereof, respectively, a recombinant cell of claim 62.

**Claim 74. (New)** A method of diagnosing or treating a disease comprising administering to a subject in need thereof an antibody of claim 63.

**Claim 75. (New)** A method according to claim 71 wherein said disease is cancer.

**Claim 76. (New)** A method according to claim 72 wherein said disease is cancer.

**Claim 77. (New)** A method according to claim 73 wherein said disease is cancer.

**Claim 78. (New)** A method according to claim 74 wherein said disease is cancer.

**Claim 79. (New)** A method according to claim 75 wherein said cancer is lung cancer, breast cancer, prostate cancer, colon cancer, cervix cancer, uterus cancer, larynx cancer, stomach cancer, liver cancer, Ewings sarkoma, acute lymphoid leukemia, chronic myeloid leukemia, apoptosis resistent leukemia, MDR lung cancer, pancreas cancer, gastric cancer, kidney cancer, gliomas, melanomas, chronic lymphoid leukemia, and/or lymphoma.

**Claim 80. (New)** A method according to claim 76 wherein said cancer is lung cancer, breast cancer, prostate cancer, colon cancer, cervix cancer, uterus cancer, larynx cancer, stomach cancer, liver cancer, Ewings sarkoma, acute lymphoid leukemia, chronic myeloid leukemia, apoptosis resistent leukemia, MDR lung cancer, pancreas cancer, gastric cancer, kidney cancer, gliomas, melanomas, chronic lymphoid leukemia, and/or lymphoma.

**Claim 81. (New)** A method according to claim 77 wherein said cancer is lung

cancer, breast cancer, prostate cancer, colon cancer, cervix cancer, uterus cancer, larynx cancer, stomach cancer, liver cancer, Ewings sarkoma, acute lymphoid leukemia, chronic myeloid leukemia, apoptosis resistent leukemia, MDR lung cancer, pancreas cancer, gastric cancer, kidney cancer, gliomas, melanomas, chronic lymphoid leukemia, and/or lymphoma.

**Claim 82. (New)** A method according to claim 78 wherein said cancer is lung cancer, breast cancer, prostate cancer, colon cancer, cervix cancer, uterus cancer, larynx cancer, stomach cancer, liver cancer, Ewings sarkoma, acute lymphoid leukemia, chronic myeloid leukemia, apoptosis resistent leukemia, MDR lung cancer, pancreas cancer, gastric cancer, kidney cancer, gliomas, melanomas, chronic lymphoid leukemia, and/or lymphoma.

**Claim 83. (New)** A method for modulating the level and/or activity of a target substance in a cell wherein said target substance comprises at least one member selected from Table 3, Table 4, or Table 5, said method comprising contacting said cell with a polypeptide of claim 1.

**Claim 84. (New)** The method according to claim 83, wherein the target substance is a protein.

**Claim 85. (New)** The method according to claim 84, wherein the target substance is a peroxidase.

**Claim 86. (New)** The method according to claim 85, wherein the target substance is peroxiredoxin I.

**Claim 87. (New)** The method according to claim 86, wherein the target substance comprises at least one of the following polypeptides:

(a) a polypeptide comprising an amino acid sequence of SEQ ID NO: 8,

(b) a polypeptide comprising an amino acid sequence which is homologous to the

sequence of (a) with at least 70%, or/and

(c) a fragment of the polypeptide sequence of (a) or (b).

**Claim 88. (New)** The method according to claim 83, wherein the target substance is a nucleic acid.

**Claim 89. (New)** The method according to claim 87, wherein the target substance encodes a peroxidase.

**Claim 90. (New)** The method according to claim 88, wherein the target substance encodes peroxiredoxin I.

**Claim 91. (New)** The method according to claim 89, wherein the target substance comprises at least one of the following polynucleotides:

(a) a polynucleotide comprising the nucleic acid sequence of SEQ ID NO: 7,

(b) a polynucleotide comprising a nucleic acid sequence which corresponds to the sequence of (a) within the scope of the degeneracy of the genetic code,

(c) a polynucleotide comprising a nucleic acid sequence which hybridizes to the sequence of (a) or/and (b) under stringent conditions,

(d) a fragment of the nucleotide sequence of (a), (b) or (c).

**Claim 92. (New)** A method for screening and/or identifying a pharmaceutical agent, said method comprising measuring the activity and/or level of a target substance, wherein said activity or level is measured according to the method of claim 83.

**Claim 93. (New)** A pharmaceutical composition or a kit comprising as an active agent a combination of APIT and at least one inhibitor of a substance of Table 3, Table 4, or Table 5.

**Claim 94. (New)** A single-standed or double-stranded RNA molecule which is capable of inhibiting peroxiredoxin I activity, wherein said RNA molecule comprises a

nucleic acid sequence of at least 15 nucleotides, said sequence being complementary to a peroxiredoxin I transcript.

**Claim 95. (New)** The RNA molecule of claim 93 which is double stranded.

**Claim 96. (New)** The RNA molecule of claim 93, wherein the peroxiredoxin I transcript comprises SEQ ID NO: 7.

**Claim 97. (New)** The RNA molecule of claim 93, wherein the strands independently of each other comprise 19 to 25 nucleotides, preferably 19 to 23 nucleotides.

**Claim 98. (New)** The double-stranded RNA molecule of claim 94 which comprises at least one of the following polynucleotide sequences: SEQ ID NO: 9,SEQ ID NO: 10,SEQ ID NO: 11; SEQ ID NO: 12;SEQ ID NO: 13;SEQ ID NO: 14;SEQ ID NO: 15; SEQ ID NO: 16;SEQ ID NO: 17;SEQ ID NO: 18;SEQ ID NO: 19; SEQ ID NO: 20;SEQ ID NO: 21;SEQ ID NO: 22;SEQ ID NO: 23; SEQ ID NO: 24;SEQ ID NO: 25;SEQ ID NO: 26;SEQ ID NO: 27; SEQ ID NO: 28, SEQ ID NO: 29,
wherein the polynucleotides optionally comprise one or two 3' overhangs and/or one or more modified nucleotides.

**Claim 99. (New)** A pharmaceutical composition or a kit comprising the RNA molecule of claim 93 or a nucleic acid encoding said RNA molecule.

**Claim 100. (New)** A pharmaceutical composition of claim 98 further comprising a gene therapy delivery system, said system being suitable for the delivery of said nucleic acid to a predetermined tissue and/or cell type.

**Claim 101. (New)** A method of diagnosing and/or treating cancer comprising administering reacting or to a subject in need thereof, respectively, a pharmaceutical composition of claim 93.

**Claim 102. (New)** A pharmaceutical composition or a kit comprising at least one of (I), (II) or (III):

(I) at least one of the following polypeptides:

(a) D-G-E-D-A-A-V (SEQ ID NO:32),

(b) (D/Q)-G-(IN)-C-R-N-(Q/R)-R-(Q/P) (SEQ ID NO:33),

(c) F-A-D-S (SEQ ID NO:34),

(d) G-P-D-G-(I/L)-V-A-D (SEQ ID NO:35),

(e) P-G-E-V-S-(K/Q)-(I/L) (SEQ ID NO: 36),

(f) A-T-Q-A-Y-A-A-V-R-P-I-P-A-S-K (SEQ ID NO:37),

(g) D-S-G-L-D-I-A-V-E-Y-S-D-R (SEQ ID NO:38),

(h) G-D-V-P-Y-D-L-S-P-E-E-K (SEQ ID NO: 39),

(i) SEQ ID NO: 41, 43, 44, 45,

or a fragment thereof,

wherein the polypeptide or fragment has cytotoxic activity,

(II) at least one of the following polynucleotides:

(i) a polynucleotide of SEQ ID NO: 40 or 42, a polypeptide encoding portion thereof or a complement thereof,

(ii) a polynucleotide corresponding to the sequence of (i) within the scope of degeneracy of the genetic code, or a complement thereof

(iii) a polynucleotide comprising a nucleic acid sequence which hybridizes with the sequence of (i) and/or (ii) under stringent hybridizing conditions;

(III) an inhibitor of a target substance wherein said target substance comprises at least one member selected from Table 3, Table 4, or Table 5.

**Claim 103. (New)** A method for the diagnosis or treatment of cancer in a subject, comprising reacting or administering to a subject in need thereof, respectively, a pharmaceutical composition or a kit of claim 92.

**Claim 104. (New)** A method for the diagnosis or treatment of cancer in a subject, comprising, reacting or administering to a subject in need thereof, respectively, a pharmaceutical composition or a kit of claim 101.